



November 5, 2018

Ms. Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street SW
Washington, DC 20554

METROPOLITAN
EMERGENCY SERVICES BOARD

2099 UNIVERSITY AVENUE WEST
SUITE 201
SAINT PAUL, MINNESOTA
55104-3431

PHONE 651-643-8395
FAX 651-603-0101
WWW.MN-MESB.ORG

RE: Comments of the Metropolitan Emergency Services Board in the matter of PS Docket No. 18-261, Implementing Kari's Law and Section 506 of RAY BAUM's Act, and PS Docket No. 17-239, Inquiry Concerning 911 Access, Routing, and Location in Enterprise Communication Systems

The Metropolitan Emergency Services Board (MESB) hereby submits the following comments in response to the Commission's *Notice of Proposed Rulemaking*, PS Docket Nos. 18-261 and 17-239, released September 26, 2018, seeking comment on proposed rules to implement Kari's Law and Section 506 of RAY BAUM'S Act. The MESB supports rules which assist in standardizing access to 9-1-1 without dialing extra digits, as well as rules which standardize the requirement for accurate automatic dispatchable location information presented to public safety telecommunicators, regardless of the technology used to access 9-1-1. The MESB is encouraged by the Commission's consideration of these rules, as they present a positive step forward for 9-1-1.

BACKGROUND

The MESB is a joint powers board of the nine counties, plus the City of Minneapolis, which comprise the Twin Cities metropolitan area, including the counties of Anoka, Carver, Chisago, Dakota, Hennepin, Isanti, Ramsey, Scott and Washington. As part of its duties, the MESB oversees the 9-1-1 network and database for the 3.1+ million residents and businesses in the nine-county area. The geography of this metropolitan area ranges from urban to rural and contains a wide spectrum of business, including complex corporate campuses, multi-location enterprises, and multi-campus educational institutions and residential facilities. As part of its duties, the MESB works with its public safety answering points (PSAPs) to report problems with

9-1-1 calls and monitor their resolution. Such problems include 9-1-1 call delivery issues that prevent calls from reaching PSAPs, inaccurate 9-1-1 call routing that sends calls to the incorrect PSAP, inappropriate callback number, and inaccurate or nonexistent location information provided to PSAPs. The MESB has found each of these error conditions existent with multi-line telephone systems (MLTS) and enterprise communications systems (ECS).

Of the 9-1-1 call errors reported by Twin Cities metropolitan area PSAPs, approximately half are related to business MLTS/PBX or VoIP telecommunications systems. Enacted in 2004, Minnesota Statute §403.15 details 9-1-1 requirements for MLTS in the state. The statute delineates the requirements, which include:

- Requiring owners and operators of MLTS/PBX systems purchased after December 31, 2004 to design and maintain the system to provide a call-back number and emergency response location;
- Requiring each MLTS/PBX systems operator to demonstrate or inform each new telephone system user how to call for emergency assistance from that system;
- Requiring operators of shared MLTS/PBX systems which serve residential customers on and after January 1, 2005 and which are connected to the public switched telephone network (PSTN), to have at least one distinctive automatic number identification (ANI) and ALI for each residential unit;
- Requiring each MLTS/PBX systems operator which serve hotels and motels to permit the dialing of 9-1-1 and ensure that 9-1-1 calls originating from these hotel and motel telephone systems clearly identify the address and specific location of the 9-1-1 caller; and
- Requiring operators of MLTS/PBX systems serving educational institutions, shared residential facilities, or businesses which are connected to the PSTN to ensure that calls to 9-1-1 from any telephone on the system result in one of the following:
 1. ALI for each respective emergency response location;
 2. An ability to direct emergency responders to the 9-1-1 caller's location through an alternative and adequate means, such as the establishment of a 24-hour private answering point; or

3. A connection to a switchboard operator, attendant, or other designated on-site individual.

Despite this statute, the MESB and city and county jurisdictions regularly work with MLTS/PBX system owners and operators of all types to educate them on the statutory requirements and to remedy non-existent or inaccurate 9-1-1 location information in their systems. MLTS/PBX systems continue to be sold and implemented in Minnesota nearly 14 years after the state statute took effect that are not 9-1-1 location-compliant. Gaining compliance takes a great deal of time and effort from the MESB, PSAPs, public safety agencies, and city and county attorney's offices.

Public safety agencies rely on 9-1-1 systems to provide dependable and precise information about a caller's location and a reliable number which can be used to reach the caller in the event the 9-1-1 call is terminated. Even today, nearly 14 years after Minnesota Statutes §403.15 was implemented, 9-1-1 calls made from MLTS/PBX and ECS systems, such as those in large or multi-campus/building businesses or campus environments, may not be precisely located by the 9-1-1 system, which eliminates the crucial benefits provided by current 9-1-1 systems.

Public perception is that 9-1-1 works 100% of the time and provides perfect information regarding a caller's location regardless of the technology used to reach 9-1-1; if Domino's and Uber can find a person with ease, so should 9-1-1. The public does not know there are differing requirements of MLTS owners and operators regarding 9-1-1 than those for the service providers of their single, residential service at home. 9-1-1 callers should not experience different levels of service from 9-1-1 due to the technology used to call for emergency assistance.

COMMENTS ON PROPOSED RULES

The MESB supports rules which assist in standardizing access to 9-1-1 without dialing extra digits, as well as rules which standardize the requirement for accurate automatic dispatchable location information presented to public safety telecommunicators, regardless of the technology used to access 9-1-1. The 9-1-1 industry has long needed consistency across technology platforms, so that the public can be serviced equitably regardless of how they call 9-1-1.

Federal intervention is needed to ensure accurate routing, callback number, and dispatchable location is available for all 9-1-1 calls. The MESB supports that in all circumstances, regardless of technology, vendor, or communication method used, PSAPs need: 1) 9-1-1 calls routed to the correct PSAP based on the caller's location; 2) accurate callback numbers; and 3) accurate caller location. The public makes no distinction between access methods or technologies when it comes to its expectation that 9-1-1 "will work" at its time of need. In the case of MLTS/PBX systems, even state statutes, like that which exists in Minnesota, have not been successful in achieving these 9-1-1 requirements. Owners, operators, and vendors who choose to sell, buy, and install these systems must be held accountable for ensuring 9-1-1 system compatibility. Many systems are now multi-state, multi-vendor, or involve services regulated at the national level requiring federal regulatory action.

Public safety needs better systems to report/refer problems with 9-1-1 calls from MLTS/PBX and ECS telecommunications systems. Technology and configurations of the telecommunications systems used to access 9-1-1 are increasingly complex. As such, the burden to diagnose, champion, and guide resolution of these complex problems should not fall on public safety. PSAPs, and regional entities such as the MESB, can identify problems, but cannot fix them. In the past, 9-1-1 call problems were reported to the service provider who "owned" the telephone number (per the NPAC database) that appeared with the 9-1-1 call. The service provider would work with their customer to determine if the problem was the result of the programming of the Primary Rate Interface (PRI) connection, the programming of the MLTS/PBX equipment, or the need for additional or more accurate location records in the 9-1-1 ALI database, such as PS/ALI solutions. Now, the "owner" of the telephone number is often not the provider of the PRI connection to the PSTN, the provider or manager of the MLTS/PBX equipment, the provider of access to the 9-1-1 network, and/or the entity maintaining the station location records. It has become increasingly difficult for public safety and 9-1-1 authorities to find an entity which will accept responsibility for diagnosing and facilitating resolution of 9-1-1 problems associated with these systems. Because public safety and 9-1-1 authorities have no visibility into, knowledge of, or expertise with a specific business's telecommunication system's configuration or database arrangement, public safety should not have to understand where exactly the problem lies, nor have to chase down telecommunications specialists within large

organizations owning or operating MLTS/PBX or ECS systems or their 9-1-1 access connections to find someone willing to accept and take action on a 9-1-1 call problem.

Enforcement mechanisms need to exist when incompatibility between MLTS/PBX and ECS systems exists and is not corrected on a timely basis. PSAPs find that reported 9-1-1 call routing, callback number or location problems languish without resolution as service providers and vendors struggle with how to resolve the problem. Of the current PSAP reported issues with 9-1-1 call routing, callback number, and location information, approximately 75% of those still unresolved after 30 days appear to be related to MLTS/PBX, ECS, VoIP or other business phone systems.

Not only are accurate dispatchable address locations needed, but in many situations, sub-address locations are vital for timely public safety response. Simply receiving a street address for large business facilities, venues, or campuses is insufficient for public safety response when callers cannot provide verbal clarification of their specific location. Guidelines should be defined in FCC rulemaking for the accuracy of locations provided to PSAPs for MLTS/PBX and ECS systems requiring sub-address locations that aid in finding callers inside large or multi-unit buildings, as well as at multi-building addresses.

PSAPs see an increasing number of 9-1-1 calls misrouting out-of-state due to incorrect implementation of access to 9-1-1 from VoIP-based ECS systems. End users are not always educated as to how changes they initiate affect 9-1-1 access. For example, recently a 9-1-1 call from a local Minnesota fast-food chain restaurant routed to Travis County Sheriff's Office in Austin, Texas. The Texas PSAP had to ascertain the caller's location and determine to what Minnesota PSAP to transfer the call. This wasted precious time compared to accurate initial routing of the 9-1-1 call. When the local Minnesota PSAP followed up with the restaurant, the manager reported that he had recently made some changes to the alarm and Internet service and was unsure if they had a VoIP phone system or not. Later it was determined that the restaurant had service from a nationwide enterprise VoIP MLTS system. The location for the local restaurant had either not been entered at all or was entered incorrectly in the vendor's database used by the nationwide business for their 9-1-1 access. Beyond the delays introduced with the actual call, follow up investigation required significant time investment on the part of public safety.

Registered location does not constitute an accurate dispatchable location. From the experience of the MESB and its PSAPs, users do not maintain their 9-1-1 location and better solutions are needed. PSAPs have experienced inaccurate 9-1-1 call locations where owners/operators, who initially made the commitment to supply location information via PS/ALI solutions, have not maintained their data after initial implementation of the telecommunications system. In addition, under VoIP systems, where user intervention is required to enter a changed location, similar instances of incorrect location have been experienced. For example, a 9-1-1 call was received by the Minneapolis PSAP with an ALI record indicating a single-family residence in the southern part of the city. However, the telecommunicator determined during the call that the caller was not at that residence and indeed had not lived there for several months. The caller was calling from a state park approximately 30 miles from Minneapolis and had connected to their wireless carrier using a Wi-Fi calling feature which connected over the Internet and not via with wireless carrier's cellular towers. This type of connection prevented the wireless carrier's normal location determination equipment from being used and delivered the residential address of the caller's last Registered Location on file. Solutions which automatically detect and supply accurate MLTS/PBX, ECS, and VoIP system user location to PSAPs without manual intervention are needed.

Validation of dispatchable locations from MLTS/PBX and ECS systems to authoritative data must be required (i.e. Master Street Address Guide (MSAG) and/or geospatial datasets, such as road centerline and address points, supplied by official local government/public safety authoritative sources). In the Twin Cities metropolitan area, PSAPs and the MESB maintain the regional MSAG, which is the authoritative source for E9-1-1 address validation. In addition, the counties and PSAPs have made significant investments in the creation and maintenance of geospatial datasets that will be the authoritative source for NG9-1-1 location validation. Vendors and service providers working with provisioning dispatchable locations from MLTS/PBX and ECS systems must be required to use these local authoritative data sources, not national third-party datasets which may be inconsistent with the authoritative data.

9-1-1 location databases should be visible to 9-1-1 authorities for purposes of proactive auditing and quality assurance. With wireline E9-1-1 systems, PSAPs have access to the location records residing in the ALI database. This allows proactive quality assurance of the location data, verification of corrections and the ability to fix some errors before 9-1-1 calls are

ever placed. For example, in Minnesota the addresses of records in the ALI database are being used in preparation for the transition from E9-1-1 to NG9-1-1. The 9-1-1 ALI addresses are validated against geospatial datasets, such as road centerlines and address points, which has led to positive data quality improvements to both the 9-1-1 ALI and MSAG data, as well as the geospatial data. On behalf of its PSAPs, the State of Minnesota requested the Minnesota 9-1-1 data records from VoIP Positioning Centers (VPCs) in order to perform similar quality assurance, as well as validating that the 9-1-1 locations in the VPC databases are covered by the road centerline and address point databases. The State of Minnesota's request for access to the Minnesota data at the VPCs was unsuccessful. The MESB supports the FCC promulgating rules what allow PSAPs to access location data in VPCs, and any other databases specifically designed to supply the 9-1-1 call location to PSAPs, in order to allow proactive quality assurance of the location data and verification that service providers are adequately pre-validating locations sent to PSAPs using the 9-1-1 system.

9-1-1 calls placed from MLTS/PBX, ECS and VoIP systems should not be allowed to routinely route to national call centers rather than the local serving PSAP. Any telecommunications system which allows a user to dial 9-1-1 should normally send calls through the 9-1-1 system to the appropriate local PSAP rather than routing all 9-1-1 calls to a national call center for verbal location verification and forwarding to the local PSAP. The routing of 9-1-1 calls to a nationwide call center should be a rare occurrence. Recently, the Hennepin County Sheriff's Office's PSAP reported 9-1-1 calls dialed from a local community center as misroutes because the calls were not received at the PSAP. The MESB and the Hennepin County PSAP investigated the calls and were led to believe that the community center and its interconnected VoIP service provider had an agreement to have the center's 9-1-1 calls terminate at West Safety Services, rather than automatically routing the calls directory to the appropriate PSAP. The 9-1-1 call routing was confirmed by a test call made by a law enforcement officer using the center's phone system; the call was answered by West. When an inquiry was made with West, its response was, "In certain cases where calls are made by a remote/off prem user or there are concerns that the provisioned address may not be diligently being updated by the end customer, they are first delivered to the ECRC to ensure that a misroute doesn't occur [due] to inaccurate/outdated information. A trained ECRC agent will confirm that the provisioned address information is accurate with the caller before handing the call off to the correct PSAP." This type of arrangement introduces significant delays in emergency response.

CONCLUSION

The MESB is supportive of rules which assist in standardizing access to 9-1-1 without dialing extra digits, as well as rules which standardize and automatic dispatchable location information presented to public safety telecommunicators, regardless of the technology used to access 9-1-1. The MESB is encouraged by the Commission's consideration of these rules, as they present a positive step forward for 9-1-1 and thanks the Commission for allowing the MESB to submit comments in this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "Jill Rohret". The signature is fluid and cursive, with the first name "Jill" and last name "Rohret" clearly distinguishable.

Jill Rohret
Executive Director